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ABSTRACT

This study was designed to test the hypothesis that there is no significant difference between the academic achievement of black students and students of other races at Okaloosa-Walton Junior College (OWJC) in terms of (1) hours of enrollment, (2) course withdrawals, (3) course failures, and (4) overall course completions. The subjects of this study consisted of all credit and noncredit students enrolled at OWJC during fall 1975 who had not been admitted exclusively for enrichment (avocational) courses or for "other personal reasons" (teacher certification or other reasons not related to a specific catalog program or activity). The fall 1975 nonavocational enrollment was 4,014 students--88.7 percent were white, 7.6 percent were black, and 3.7 percent were other minorities. No significant differences were found between black students and other students in terms of hours of enrollment and rate of withdrawal. However, blacks were found to have a significantly higher failure rate (17.3 percent, as compared to 7.6 percent for white students and 8.3 percent for others) and a significantly lower record of course completions (62.5 percent, as compared to 78.1 percent for white students and 79.8 percent for others). recommendations to solve this problem are made. (DC)

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A COMPARISON OF RACE/ETHNIC CATEGORIES BY HOURS OF ENROLLMENT AND COURSE COMPLETIONS FOR FALL SEMESTER 1975

Research Report by
J. A. Durham, Director
Institutional Research
February 13, 1976

JC 760 145

A COMPARISON OF RACE/ETHNIC CATEGORIES BY HOURS OF ENROLLMENT AND COURSE COMPLETIONS FOR THE FALL SEMESTER 1975

SUMMARY

Selected student data for non-avocational enrollments by three race/ethnic groupings were tested for statistical differences. The student groups did not differ from one another relative to hours of enrollment or in hours withdrawn from courses. There were differences, however, in completions and failures with blacks succeeding at a lower rate than other racial categories.

Specific steps have been taken to improve the success of blacks via the Equal Access/Equal Opportunity Learning Lab and the Mathematics Lab, indicating that subsequent reports will likely reveal marked increases in the success of all students with educational deficiencies.

INTRODUCTION

Okaloosa-Walton Junior College is located in a progressive community where, according to the 1970 federal census, the median school years completed for adults was 12.4 years. The College has also been progressive in its efforts to provide educational services of a wide variety without discrimination to all eligible citizens in the two-county district. Program areas offered by the College include:

1. Associate of Arts degree activities in advanced and professional as well as occupational disciplines; these are open to students of all races and prepare them for transfer to upper division levels at state universities.

2. Associate of Science degree and occupational certificate activities in college credit and non-college curricula preparing students for immediate employment.

3. Developmental courses and curricula in compensatory and adult elementary/secondary instruction providing activities to meet the academic and personal needs of the educationally disadvantaged.

4. Community instructional services providing programs of continuing education and community services, including avocational.

The faculty and administration of OWJC sincerely believe that citizens of all races may enroll and pursue an educational program without discrimination. It was recognized in the early days of the institution that many students of

all races enter college without adequate educational background to enable them to succeed at a satisfactory level. Therefore, the College established remedial activities in reading, mathematics, and the sciences. Furthermore, a tutorial program was established in which students may receive academic assistance in any course from a fellow student who is succeeding in that course; the tutoring student receives 1 semester hour of credit for the service.

PROBLEM

Due to the extensive efforts which had been made in providing remedial assistance to all students regardless of race, it was felt that the success rate among the total student body would be relatively the same among all race/ethnic categories. Therefore, in the College's Civil Rights Report which was prepared during the fall semester 1975, the following hypothesis was stated:

> There is no significant difference between the black student population at OWJC and other races in (1) hours of enrollment, (2) withdrawals, (3) failures, and (4) overall course completions.

The problem in this study was to review relationships between the race/ethnic groups enrolled at OWJC during the fall semester 1975 relative to course registrations and completions. Although the white students composed the overwhelming majority in the total enrollment, the assumption was that the intra-racial achievements were relatively the same from group to group, i.e., the races did not differ in their hours persued, passed, failed, or hours of withdrawals.

METHOD

The hours of enrollment, semester hours earned, and the total number of students are routinely summarized at the discipline level for purposes of reporting to the State Department of Education. For this study, however, existing computer programs were modified to provide course input and output data by race/ethnic categories.

The data in this report were compared at the discipline level rather than student level, and for each set of data (hours enrolled per student and the rate of completions, failures, and withdrawals), the mean and standard deviation were computed. Furthermore, a simple analysis of variance was computed for the same sets of discipline groupings or dependent variables.

RESULTS

The subjects for this study consisted of all credit and non-credit students enrolled at OWJC during the fall semester 1975 who had not been admitted to the College exclusively for enrichment (avocational) courses or for "other personal reasons" (teacher certification or other reason not related to a specific catalog program or activity). The students, their hours of enrollment and course outputs were divided into 3 race/ethnic categories: white, black, and other minorities consisting of Asian, native American, and Hispanic.

The enrollment at OWJC during the fall term consisted of 4536 individuals; 4014 were enrolled in identifyable catalog programs and activities exclusive of enrichment/avocational offerings -- 2062 were in this category including 1550 Vietnamese refugees. Registrations and course completion data from 4014 students were used in this study -- 88.7 percent were white, 7.6 percent black, and 3.7 percent represented other minorities. These students registered for a total of 33343 semester hours exclusive of enrichment courses and their course outputs equaled 25623 hours. There were 591 hours in "I" grades which may be added to this total at a later date, but at the end of the fall term, the student body had earned a 76.8 percent completion rate. These data are presented in Table 1.

Table 1

HOURS OF ENROLLMENT AND COMPLETIONS BY RACE
-Exclusive of Avocational-

	Black	White	Other	Total
Number enrolled	305	3559	150	4014
Percent of total	7.6	88.7	3.7	
Hours enrolled	1839	30352	1054	33245
Percent of total hours	5.5	91.3	3.2	
Average hours per student	6.0	8.5	7.0	8.3
Hours completed	1265	23537	821	25623
Percent completed within race	68.6	77.3	77.5	
Percent completed of total hours (All students)	4.9	91.9	3.2	

As further indicated in Table 1, the black students represented 7.6 percent of the total enrollment, yet they enrolled for only 5.5 percent of the total semester hours for an average of 6 hours per student. The combined group of other minority students represented 3.7 percent of the total enrollment and carried 3.2 percent of the total hours -- this group averaged 7 hours per student. The majority group students (whits) representing 88.7 percent of the enrollment carried 91.3 percent of the total hours and averaged 8.5 hours per student.

Table 2 presents a comparison of semester hours enrolled and the number of students who were persuing programs in 3 areas: advanced and professional, occupational, and developmental. Among advanced and professional enrollments, the average hours per student were 9.1 for whites, 6.3 for blacks, and 7.9 for other minorities. The hours per student in the occupational disciplines differed very little between the races -- 8 for whites, 7.2 for blacks, and 6.7 for others. In the developmental area, black students averaged 4.7, other minorities 6.2, and whites 6.5.

Table 2

COMPARISON OF HOURS OF ENROLLMENT BY RACE

Category	Advanced and Professional	Occupational	Developmental	Total
Whites				
Hours	17795	11210	1352	30357
Students	1945	1405	209	3559
Mean	9.1	8.0	6.5	8.5
Blacks				
Hours	589	735	510	1834
Students	94	102	109	305
Mean	6.3	7.2	4.7	6.0
Others				
Hours	489	263	302	1054
Students	62	39	49	150
Mean	7.9	6.7	6.2	7.0
Total	18873	12208	2164	33245

The percent of completions, failures, and withdrawals for each race category are presented in Table 3. Among the 17 disciplines, the white students completed course hours at a higher rate than the other race categories in 7 areas, the blacks had a higher rate of completions in 2 areas, and the remaining minorities succeeded at a higher rate in 8 of the 17 disciplines. Failure rates indicate that blacks were high in 13 disciplines, other minorities had a higher failure rate in one area (psychology); and whites had the highest failure rate in 3 areas (letters, technical education, and elementary/secondary education). For course withdrawals, whites had a higher rate in 2 disciplines, blacks in 8, and other minorities in 5.

For the average hours enrolled among the racial groups, whites averaged 8.5, blacks 6.0, and others 7.0; the F-ratio of 1.70 was not significant. The mean completion rate for the 3 groups at the conclusion of the fall term was 78.1 for whites, 62.5 for blacks, and 79.8 for other minorities. The analysis of variance for completions produced a significant F-ratio of 10.58 (p less than 1 percent). For the rate of hours failed among the disciplines, blacks were high with 17.3 percent followed by other minorities with 8.3, and the whites with 7.6 percent. The F-ratio for failures was 8.76 -- again, p was less than 1 percent. For withdrawals, the mean rates were 12.7 for whites, 18.3 for blacks, and 16.3 for other minorities; the F-ratio of 1.67 was not significant at the .05 level. Table 4 presents the "among" and "within" group sums of squares, degrees of freedom, and mean squares plus the F-ratio for each of the 4 comparisons.

Table 3

RATES OF COMPLETIONS, FAILURES, AND WITHDRAWALS

No.	Discipline Title	Completions			Failures			Withdrawals		
		Whites	Blacks	Others	Whites	Blacks	Others	Whites	Blacks	Others
1004	Biological Science	62.7*	34.8	60.5	15.0	32.6*	10.5	12.3	6.5	28.9*
1008	Education	87.2*	85.6	83.9	3.6	7.6*	6.5	6.6	6.8	9.7*
1010	Fine/Applied Arts	84.9	65.9	88.6*	5.3	6.8*	1.1	6.3	20.5*	6.8
1011	Foreign Language	73.3	50.0	85.7*	6.8	25.0*	--	13.7	--	14.3*
1015	Letters	76.1*	61.9	73.7	8.3*	7.1	5.3	13.2	26.2*	15.8
1017	Mathematics	62.9*	57.1	55.2	14.4	38.1*	17.2	17.3	4.8	20.7*
1019	Physical Sciences	79.9*	50.0	75.0	6.6	26.0*	12.5	11.8	25.0*	12.5
1020	Psychology	86.1*	40.0	71.4	4.7	--	14.3*	7.8	50.0*	14.3
1022	Social Sciences	78.5	66.1	89.5*	8.6	20.3*	--	10.3	12.7*	10.5
2200	Distributive	72.3	60.5	90.6*	11.6	14.0*	9.4	12.0	18.6*	--
2300	Health	87.5*	75.0	--	6.9	25.0*	--	6.9	--	--
2400	Home Economics	78.0	72.2	100.0*	7.0	8.9*	--	13.4*	5.9	--
2500	Office	75.6	47.8	81.6*	9.5	20.2*	18.4	12.9	29.1*	--
2600	Trade/Industrial	87.4	71.2	100.0*	4.0	18.7*	2.6	14.6*	8.5	12.6
2700	Technical	74.2	83.1*	69.0	7.7*	7.0	3.4	14.1*	8.5	12.6
3100	Post High School	79.8	59.3	82.6*	6.4	18.5*	5.2	14.0	22.2*	11.3
3200	Elementary/Secondary	75.6	81.7*	69.8	3.0*	2.1	1.6	28.9	22.0	32.3*
Mean		78.1	62.5	79.8	7.6	17.3	8.3	12.7	18.3	16.3
S		6.8	14.4	12.5	3.3	10.0	10.6	5.1	11.6	7.3

*Asterisk indicates highest rate for completions, failures, and withdrawals

Table 4

ANALYSIS OF VARIANCE FOR HOURS ENROLLED, COMPLETIONS, FAILURES, AND WITHDRAWALS

	SS	df	MS	F
Hours of Enrollment				
Among Groups	4.86	2	2.43	1.70
Within Groups	8.59	6	1.43	
Completions (based on hours earned)				
Among Groups	3060.84	2	1530.42	10.58*
Within Groups	6798.38	47	144.65	
Failures (based on hours of "F" grades)				
Among Groups	1318.53	2	659.26	8.76*
Within Groups	3239.95	43	75.35	
Withdrawal Hours				
Among Groups	257.39	2	128.7	1.67
Within Groups	3236.59	42	77.1	

*Significant at the .01 level

DISCUSSION

The hypothesis stated earlier was in 4 parts and indicated that there were not expected to be major differences between the black students at OWJC and other race/ethnic groups with respect to (1) hours of enrollment, (2) overall course completions, (3) failures, and (4) withdrawals.

The hypothesis was accepted for hours of enrollment and for withdrawals since the differences between racial groups in these categories were not significantly different at the .05 rejection level. For hours of enrollment, white students enrolled for more hours per individual in each of the discipline clusters than did either of the other groups, but again, differences were not significant.

Something other than chance appears to have caused the differences observed between the racial groups in overall course completions and in course failures; thus, the hypothesis was rejected for these areas. At first glance, it might appear that race played a major part in course completions and failures (the means for blacks versus whites was 62.5/78.1 for completions and 17.3/7.1 for failures); however, these data do not indicate that race was the contributing factor, only that the black group succeeded at a significantly lower rate. Numerous other variables most likely contributed to the observed differences, and efforts should continue to be made in identifying possible contributors to the lower academic achievement among black students and steps taken to alleviate the deficiencies.

A continued effort at publicizing the College's tutorial program among minority students will likely improve their use of this service and ultimately increase their academic success. A new service which became operational in January, 1976 is the Equal Access/Equal Opportunity Learning Laboratory. This facility is open to all students but especially to those with noted deficiencies in reading and English communications. All students in freshman English classes who are identified by their instructors as deficient in reading skills, grammar, and general English usage are referred to the lab for individual attention from regular OWJC English instructors; other students may use the service on a self-referal basis. During the first month of operation (January, 1976), 661 students utilized the lab -- 18 percent were black. Eventually, this lab will serve all disciplines except for mathematics which has its own special facility.

In the fall semester 1975, a laboratory devoted especially to mathematics was opened. The services of this center -- an extension of the EA/EO lab concept -- were designed for students from all disciplines in need of math assistance. This lab is staffed by mathematics instructors and student lab assistants and is equipped with terminals to a DCC minicomputer. During January, 55 students utilized the Math Lab services -- 14 percent were black. As with the EA/EO Learning Lab, the Math Lab has been operational for much too brief a period to have contributed significantly to overall course completions. However, it is anticipated that within 1 to 2 years, the use of this service will begin to play a major role in math accomplishments -- not only in the math discipline but in business subjects, the sciences, electronics, and other subjects requiring the use of mathematics as a tool.

With the new services now available to all students needing remedial assistance, together with the established tutorial lab and counseling services, it is expected that the academic achievements of minorities at OWJC will steadily increase. Therefore, even though two of the hypotheses were overwhelmingly rejected indicating major differences between the races in course outputs, it is predicted that a replication of this study at the conclusion of the fall semester 1976 will reveal a noticeable increase in minority achievements and will very likely uphold the hypotheses as stated.

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